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PAPER

Older peoples' attitudes towards euthanasia and an end-of-life pill in The Netherlands: 2001–2009

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ABSTRACT

Introduction With an ageing population, end-of-life care is increasing in importance. The present work investigated characteristics and time trends of older peoples' attitudes towards euthanasia and an end-of-life pill.

Methods Three samples aged 64 years or older from the Longitudinal Ageing Study Amsterdam (N=1284 (2001), N=1303 (2005) and N=1245 (2008)) were studied. Respondents were asked whether they could imagine requesting their physician to end their life (euthanasia), or imagine asking for a pill to end their life if they became tired of living in the absence of a severe disease (end-of-life pill). Using logistic multivariable techniques, changes of attitudes over time and their association with demographic and health characteristics were assessed.

Results The proportion of respondents with a positive attitude somewhat increased over time, but significantly only among the 64–74 age group. For euthanasia, these percentages were 58% (2001), 64% (2005) and 70% (2008) (OR of most recent versus earliest period (95% CI): 1.30 (1.17 to 1.44)). For an end-of-life pill, these percentages were 31% (2001), 33% (2005) and 45% (2008) (OR (95% CI): 1.37 (1.23 to 1.52)). For the end-of-life pill, interaction between the most recent time period and age group was significant.

Conclusions An increasing proportion of older people reported that they could imagine desiring euthanasia or an end-of-life pill. This may imply an increased interest in deciding about your own life and stresses the importance to take older peoples' wishes seriously.

INTRODUCTION

With an ageing population, end-of-life care for older people is increasing in importance. Sometimes, if an (older) person's suffering cannot otherwise be relieved, hastening of death can be an acceptable or even desired result of end-of-life care. Euthanasia, which in The Netherlands is defined as 'the deliberate ending of a person's life, at the person's explicit request, by a physician', could be the eventual result of end-of-life care. Currently, The Netherlands,[1] Belgium,[2] Washington state, USA,[3] Oregon state, USA[4] and Luxembourg[5] have laws legalising physician-assisted death. The Netherlands, however, was the first country to legally accept euthanasia under a number of conditions.[1] In The Netherlands, the conditions for lawful euthanasia have been subject of a long period of societal debate; in the same period a related debate addressed older peoples' wishes to die when tired of living in the absence of a severe disease.

The Dutch euthanasia debate formalised and progressed since 1980 by further exploring under what conditions euthanasia could be allowed. This exploration eventually resulted in a series of criteria of careful practice to which physicians should adhere in order to guarantee a careful euthanasia review practice (see box 1). The court cases in 1994 (Chabot) and 2002 (Brongersma) further identified the borders of the medical domain by specification of the 'suffering criterion': it was stated that suffering should originate from a medically classifiable disease or disorder, which could be either somatic or psychiatric.[6] Simultaneously and in relation to this, a debate questioned whether older people who have become tired of living and, as a result, have developed a strong wish to die, should be helped. In the early 1990s, it was opted to make available a pill that would enable older people to end their own life if they wished to do so (the so called 'Drion pill') as an alternative for assisted death outside the medical domain.[7]

The verdict of the court case of 2002 (Brongersma) gave a new turn to the latter debate, by putting older peoples' end-of-life wishes because they were tired of living outside the medical domain. The ethical questions surrounding older people with a strong wish to die were then further explored by a committee established to formulate a recommendation.[8] The committee expressed the opinion that the legal demarcation of a medical cause does not always reflect the complexity of medical practice and that 'tiredness of living' should not automatically—without considering the nature and characteristics of the problems concerned—be put outside the medical domain. This opinion did not lead to a change in the legal situation and had no noticeable effect on end-of-life practice. The debate recently received new attention from the Dutch general public.[9] The focus of the debate was especially on patient autonomy; the right of older people to end their own life (with or without the help of a physician) if they considered their life to be completed (In Dutch: 'voltooid'[10]).

Apart from focusing on patient autonomy, the current debate also seemed to reflect Dutch citizens' fear for future suffering. In The Netherlands and other industrialised countries, life expectancy has substantially increased between 1950 and 2010[11] and is only expected to increase further to

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Box 1 Dutch criteria of careful practice for euthanasia and physician-assisted suicide as laid down in the Act

1. The patient's request should be voluntary and well considered.
2. The patient's suffering should be unbearable and without prospect of improvement.
3. The patient should be informed about his situation and prospects.
4. There are no reasonable alternatives.
5. Another, independent physician should be consulted.
6. The termination of life should be performed with due medical care and attention.

2050 on a worldwide scale.[12] Older age is often accompanied by multimorbidity.[13] In addition, with increasing age, people rate their health more poorly[14] and are more likely to receive institutional care.[15] Thus, living longer in old age could more frequently be accompanied with (prolonged) suffering requiring special care. Older people are more often faced with frailty, lack of hope and a search for meaning,[16] of which quality and quantity of life considerations at the end of life can be a part. Older people's perspectives towards end-of-life practice have, however, rarely been studied.

This study explored characteristics and time trends of older peoples' attitudes towards two end-of-life scenarios: euthanasia, which is a legally accepted practice in The Netherlands,[17] and a pill that would enable older people to end their own life when being tired of living in the absence of a severe disease.[18]

METHODS

Study design and data collection

Data were retrieved from the Longitudinal Aging Study Amsterdam (LASA).[19] Detailed information about the study methods are described elsewhere.[19] To summarise, the LASA cohort is based on a representative sample of older adults (age 55–85 years), stratified for age, sex and level of urbanisation. The sample was drawn from the population registries of 11 municipalities from culturally distinct regions in The Netherlands. Data collection started in 1992–1993 and was followed by data collection cycles every 3 years. A new cohort was added in 2001–2003, so that differences between the old and new cohort in physical, cognitive, emotional and social components of functioning could be studied. Data were collected by structured face-to-face interviews by trained interviewers. Additional information was subsequently gathered through written questionnaires and medical interviews. From 2001 to 2003 onwards, older peoples' attitudes towards decisions about their end of life were asked in a self-completed questionnaire.

In the present study we used data from three different cycles; 2001–2003 (key questions asked for the old cohort, only), 2005–2006 (old and new cohort) and 2008–2009 (old and new cohort) to perform analyses on time trends of older peoples' attitudes towards two end-of-life scenarios. To do this, we grouped the participants into three age groups (64–74, 75–84, ≥85) in each cycle. This resulted in N=1284 (72% of the whole LASA sample in this age group, 23% did not participate and 3% were younger than 64) (2001–2003 cycle), N=1303 (67% of the whole LASA sample in this age group, 34% did not participate and 18% were younger than 64) (2005–2006 cycle) and N=1245 (69% of the whole LASA sample in this age group, 31% could not participate and 11% were younger than 64) (2008–2009 cycle) respondents who had filled in the self-completion questionnaire. These three subsamples are referred to as the study samples.

Measurement instruments

In the self-completion questionnaire, precategorised questions explored respondents' attitudes towards euthanasia and a pill that would enable older people to end their life when tired of living in the absence of a severe disease.

The following two key questions were used to measure respondents' attitudes:

1. Could you imagine that you would ever ask your physician to end your own life? (yes, no)
2. Could you imagine that you would ever want to have the availability of such a pill ('Drion pill' or a 'last wish pill')? (yes, no)

The second question was asked straight after the following question (see also the paper's online appendix).

'Should a suicide pill ('Drion pill' or a 'last wish pill') become available for older people when they are tired of living in the absence of a severe disease? (yes, no, no opinion)'

In the following, 'euthanasia' and an 'end-of-life pill' are used as synonyms for respectively a person's request to a physician to end their own life and a pill to enable older people to end their own life when they are tired of living in the absence of a severe disease.

Several demographic and health characteristics of the respondents were measured. Demographics included: age, gender, marital status, socioeconomic status (highest level of education attained), religious affiliation, cognitive functioning (measured by the Mini-Mental State Examination[20]), depressive symptoms (measured by the Center for Epidemiologic Studies Depression scale, a scale that indicates depressive symptomatology, cut-off 15/16 for clinically relevant symptoms[21]) and the seven most frequently occurring chronic conditions: chronic non-specific lung disease (including asthma, chronic obstructive pulmonary disease (COPD)), cardiac disease, peripheral arterial disease, diabetes mellitus, cerebrovascular accident or stroke, osteoarthritis or rheumatoid arthritis and cancer.[22] We further examined self-rated health[23] and loneliness (measured as a combination of social loneliness and emotional loneliness); the cut-off of loneliness and severe loneliness were 1–3 and >3, respectively.[24] We also examined mastery, or 'the extent to which a person perceives himself to be in control of events and ongoing situations', measured by the Pearlin Mastery Scale.[25] The cut-off of low and high mastery were chosen as ≤16 and ≥20, respectively. Finally, we measured preferences for future life time, which included two statements that respondents could choose from (quality or quantity of life),[26] and respondents' trust in that physicians would follow their care wishes at the end of life.

Analysis

In this study, we performed multiple analyses. We first reported demographic characteristics of the respondents in three different time periods (cross-sectional). We then reported percentages of respondents' attitudes towards euthanasia and an end-of-life pill in three different time periods. We subsequently tested for time trends by comparing the proportion of respondents who could imagine requesting their physician for euthanasia or an end-of-life pill. These attitudes were fitted with a logistic regression

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analysis, using the generalised estimating equations (GEE) procedure.[27] With this procedure, we took into account that the answers of respondents could be correlated across subsamples because the subsamples could be overlapping. We included the variable 'time' as a covariate in the analysis.

Respondents' attitudes were subsequently analysed in a multivariable logistic regression analysis including the demographic and health characteristics, again using GEE. In this analysis, we also separately tested for possible interaction between the respondents' age (in age groups) and the studied time period. We finally analysed the 2008–2009 data cross-sectionally, in which the associations were examined of older peoples' attitudes as a response to the end-of-life scenarios with their health and their attitudes towards other aspects of end-of-life care.

Ethics

The ethical aspects of the study have been approved in 1992 and in 2002 by the committee on Ethics of Research in Humans, Faculty of Medicine, Vrije Universiteit. The progress of the study is monitored by an International and Dutch board.

RESULTS

In 2001, 2005 and 2008 more than half of the respondents were 74 years or younger, 55% were women and about 60% of the respondents were married or had a registered partnership (table 1). The highest education attained of one-third of the respondents in 2001, 2005 and 2008 was primary education; 60% or more of the respondents had a religious affiliation, which was most often Dutch reformed/protestant or Catholic. Across the study period, about 20% of the respondents did not have any major chronic disease and 13% to 16% of the respondents reported to have more than two chronic diseases. Depressive symptoms were reported by 12% to 15% of the respondents; cognitive impairment was found among 10% to 12% of the respondents.

In all (age) groups, the proportion of respondents who could imagine requesting their physician for euthanasia was highest in

Table 1 Respondent characteristics of older people: 2001–2009

	2001–2003 (%) N=1284	2005–2006 (%) N=1303	2008–2009 (%) N=1245
Age:			
≥85	12	11	11
75–84	34	32	33
64–74	54	57	56
Gender:			
Male	45	45	45
Female	55	55	55
Marital status:			
Married, registered partner	58	62	60
Widowed	33	28	28
Divorced	5	6	8
Never married	5	4	4
Education:* †			
Primary education or less	35	30	26
Secondary education	51	54	56
Tertiary education	13	16	18
Religion:†			
None	38	41	41
Dutch reformed/protestant	28	26	27
Catholic	29	28	27
Other	5	5	4
Number of seven assessed major chronic diseases:‡			
None	23	22	20
1	39	37	36
2	26	26	27
>2	13	15	16
Depression:			
Not depressed (CES-D <16)	85	85	88
Depressed (CES-D ≥16)	15	15	12
Cognitive impairment:			
No cognitive impairment (MMSE ≥24)	88	88	90
Cognitive impairment (MMSE <24)	12	12	10
Cohort:			
Old	100	74	60
New	–	26	40

*Primary education includes: elementary not completed and elementary education. Secondary education includes: lower vocational education, general intermediate vocational education and general secondary education. Tertiary education includes: higher vocational education, college education and university education.
†Religion and education were measured once in 2001–2003 for the old and new cohort.
‡The seven most frequently occurring chronic diseases include: chronic non-specific lung disease, cardiac disease, peripheral arterial disease, diabetes mellitus, cerebrovascular accident or stroke, osteoarthritis or rheumatoid arthritis and cancer.
CES-D, Center for Epidemiologic Studies Depression Scale; MMSE, Mini–Mental State Examination.

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Table 2 Time trend of older peoples' attitudes as a response towards two end-of-life scenarios

Age category	Euthanasia: 'Could you imagine that you would ever ask your physician to end your life?'* 2001–2003 (%) N=1284	2005–2006‡ (%) N=1303	2008–2009‡ (%) N=1245	OR§	End-of-life pill: 'Could you imagine that you would ever like to have such a pill?'* † 2001–2003 (%) N=1284	2005–2006‡ (%) N=1303	2008–2009‡ (%) N=1245	OR§
All respondents ≥64 years								
Yes	54	59	63	1.21 (1.13 to 1.29)	31	32	40	1.22 (1.13 to −1.30)
No	46	41	37		69	68	60	
64–74 years	N=697	N=740	N=695		N=697	N=740	N=695	
Yes	58	64	70	1.30 (1.17 to 1.44)	31	33	45	1.37 (1.23 to 1.52)
No	42	36	30		69	67	55	
75–84 years	N=434	N=420	N=416		N=434	N=420	N=416	
Yes	51	54	56	1.11 (0.97 to 1.26)	32	32	35	1.05 (0.92 to 1.21)
No	49	46	44		68	68	65	
85 years	N=153	N=143	N=134		N=153	N=143	N=134	
Yes	45	45	50	1.07 (0.85 to 1.34)	33	30	33	0.99 (0.78 to 1.26)
No	55	55	50		67	70	67	

*The question as presented to the respondents.
†In the original questionnaire, this question was asked straight after the question as presented in the online appendix: 'Should a suicide pill ('Drion pill' or 'last wish pill') to end your own life become available for older people who are tired of living, without having a severe disease?'.
‡From 2005 on, the data of two different cohorts are combined.
§Logistic regression analysis using generalised estimating equations; analysed for the whole respondent group and for different age groups separately for the three time periods. The increase or decrease in likelihood of answering 'yes' in each time period with 2001–2003 as the reference period.

2008 (table 2). Respondents in the 64–74 age group most frequently answered the question affirmatively: 58% of the respondents in 2001, 64% of the respondents in 2005 and 70% of the respondents in 2008. The proportion of respondents who could imagine requesting their physician for euthanasia was markedly higher in all (age) groups as compared with the proportion of respondents who could imagine requesting for an end-of-life pill. In the 75–84, but especially in the 64–74 age group, the proportion of respondents who could imagine desiring an end-of-life pill was highest in 2008. In the 64–74 age group, this frequency increased from 31% in 2001 to 45% in 2008. The logistic regression analysis using GEE showed that the proportion of respondents who could imagine such a scenario for themselves significantly increased in each time period for the 64–74 age group (OR 1.30 (1.17 to 1.44) and (OR 1.37 (1.23 to 1.52)) as well as for the full sample (OR 1.21 (1.13 to 1.29) and (OR 1.22 (1.13 to 1.30)) for the euthanasia scenario and the end-of-life pill scenario respectively. Older peoples' general attitudes towards the acceptability of an end-of-life pill revealed similar patterns (see online appendix, table 1): the proportion of having a positive attitude in 2005 and 2008 was significantly higher than in 2001 and increased in each time period, except in the oldest old group. In the 64–74 age group, the cumulative OR was 1.31 (1.19 to 1.43); in the 75–84 age the cumulative OR was 1.23 (1.09 to 1.39).

Among those respondents who were measured at least twice, there were non-negligible intraindividual changes with respect to respondents' attitudes to euthanasia: 80% stuck to their first answer (which could be either positive or negative), 9% switched from 'yes' to 'no', 8% switched from 'no' to 'yes' and 4% of the respondents who had answered the question in three different years gave a different answer every time (data not shown, N=1596). Intraindividual changes with respect to respondents' attitudes to an end-of-life pill were as follows: 76% stuck to their first answer, 9% switched from 'yes' to 'no', 11% switched from 'no' to 'yes' and 4% of the respondents who had answered the question in three different time periods gave a different answer every time (data not shown, N=1398).

With multivariable regression analyses the underlying respondent characteristics were tested for their association with affirmative answers to the questions about the two end-of-life scenarios (table 3). Having had tertiary or secondary education, being non-religious, divorced, younger (64–74, 75–84), having depressive symptoms and the most recent time period all significantly contributed to the likelihood of giving an affirmative answer to the euthanasia scenario. Similar characteristics contributed to the likelihood of giving an affirmative answer to the end-of-life pill scenario. However, for the end-of-life pill, the interaction between the time period and respondents' age was significant (χ^2: 11.56, df=4, p=0.021). To facilitate interpretation, we presented (time period) ORs for each age category. For the youngest age category this OR was significant for the time period 2008–2009 (reference category: 2001) with an OR of 1.73 (1.36 to 2.21)), whereas it was not significant for the other age groups.

Respondents in 2008 who could imagine requesting their physician for euthanasia did not differ from respondents who could not, as to how they experienced their own health, with over half of the respondents reporting a good or excellent health (see online appendix table 2). The same held for loneliness, with about 20% of the respondents experiencing severe loneliness. A high score on mastery was significantly more frequently found among the group of respondents who could imagine requesting their physician for euthanasia (32% vs 27%). Most of the older people preferred a shorter life, if without major health problems. However, the differences between preferences for future life time were marked between the two groups: 92% of the respondents who gave an affirmative answer versus 73% of the respondents with a negative answer reported to prefer 'a shorter life, if without major health problems' over 'being as old as possible, irrespective of health problems'. Respondents' trust in physicians' provision of end-of-life care was somewhat lower among respondents with a positive attitude towards euthanasia. For the end-of-life pill, the association with their health and their attitudes towards other aspects of end-of-life care were virtually the same as for euthanasia.

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Table 3 Relationship between respondents' attitudes towards euthanasia and an end-of-life pill and the underlying demographic and study characteristics (N=3615 observations)*

	Imaginable to ever request euthanasia,† OR‡	Imaginable to ever want a pill to end your own life, † OR‡
Age category:		
≥85	1	1
75–84	1.23 (0.91 to 1.66)	1.03 (0.65 to 1.63)
64–74	1.71 (1.25 to 2.34)	0.87 (0.56 to 1.37)
Study period:		
2001–2003	1	
2005–2006	1.17 (1.00 to 1.37)	NA§
2008–2009	1.44 (1.22 to 1.69)	
Age category × time period:		
≥85	NA§	
2001–2003		1
2005–2006		1.07 (0.63 to 1.82)
2008–2009		1.01 (0.59 to 1.74)
75–84		
2001–2003		1
2005–2006		0.90 (0.67 to 1.21)
2008–2009		1.06 (0.78 to 1.45)
64–74		
2001–2003		1
2005–2006		0.94 (0.75 to 1.19)
2008–2009		1.73 (1.36 to 2.21)
Gender:		
Male	1	1
Female	0.89 (0.72 to 1.10)	0.95 (0.76 to 1.19)
Marital status:		
Married, registered partner	1	1
Widowed	0.88 (0.69 to 1.11)	1.06 (0.82 to 1.37)
Divorced	1.61 (1.00 to 2.58)	1.50 (0.96 to 2.34)
Never married	0.76 (0.47 to 1.23)	0.79 (0.45 to 1.39)
Education:¶		
Primary education or less	1	1
Secondary education	1.47 (1.17 to 1.85)	1.30 (1.01 to 1.66)
Tertiary education	2.13 (1.51 to 3.02)	2.49 (1.78 to 3.46)
Religion:		
None	1	1
Dutch reformed/protestant	0.15 (0.11 to 0.19)	0.15 (0.11 to 0.20)
Catholic	0.28 (0.22 to 0.36)	0.24 (0.19 to 0.31)
Other	0.28 (0.17 to 0.46)	0.48 (0.30 to 0.77)
Number of seven assessed major chronic diseases:**		
None	1	1
1	0.90 (0.72 to 1.14)	0.77 (0.60 to 0.97)
2	0.89 (0.69 to 1.15)	0.80 (0.61 to 1.05)
>2	0.86 (0.63 to 1.18)	0.74 (0.54 to 1.03)
Depression:		
Not depressed (CES-D <16)	1	1
Depressed (CES-D ≥16)	1.43 (1.09 to 1.87)	1.40 (1.07 to 1.82)
Cognitive impairment:		
No cognitive impairment (MMSE ≥24)	1	1
Cognitive impairment (MMSE <24)	0.79 (0.60 to 1.03)	0.98 (0.74 to 1.31)

*In this dataset; 217 observations are not included in the analyses because of missing values.
†See table 2 for a full description of the questions as presented to the respondents.
‡Multivariable regression analysis using generalised estimating equations: the likelihood of giving an affirmative answer to the euthanasia and end-of-life pill scenario in different categories.
§NA, not applicable. Because the interaction between respondents' age and the time period was significant for the end-of-life pill scenario, we present separate ORs for the end-of-life pill scenario by showing which time period significantly interacted with one of the age categories. This was not applicable for euthanasia because there was no interaction between time period and age category.
¶Primary education includes: elementary not completed and elementary education. Secondary education includes: lower vocational education, general intermediate vocational education and general secondary education. Tertiary education includes: higher vocational education, college education and university education.
**The seven most frequently occurring chronic diseases include: chronic non-specific lung disease, cardiac disease, peripheral arterial disease, diabetes mellitus, cerebrovascular accident or stroke, osteoarthritis or rheumatoid arthritis and cancer.

DISCUSSION

The proportion of older people with a positive attitude towards euthanasia and an end-of-life pill increased over time. In subgroup analysis, this trend was only significant among the 64–74 age group. In the multivariable logistic analysis, apart from younger age and being divorced (euthanasia only), similar demographic characteristics contributed to the likelihood of giving an affirmative answer, of which being non-religious and

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having had tertiary or secondary education appeared to be the most striking.

Strengths and limitations

The large cohort, which has been prospectively studied over a long time, is a strength of this study. The study is further characterised by low levels of missing data and attrition. However, this study has some limitations too. First, the key questions were not introduced or explained beforehand and were part of a set of questions that are often subject of debate in The Netherlands. It could be that respondents did not clearly differentiate between the two questions. Our data however showed that the number of respondents who could imagine requesting euthanasia from their physician was much higher than the number of respondents who could imagine asking for an end-of-life pill, suggesting that older people do distinguish between these two end-of-life scenarios. Second, the key questions that addressed older peoples' attitudes towards euthanasia and an end-of-life pill asked whether older people considered both end-of-life scenarios imaginable for themselves, which is stronger than having a general attitude towards it, but weaker than really wanting it. It is possible that some of the people with a positive attitude did not consider the end-of-life scenarios imaginable for themselves. This should be considered in interpreting the results. Third, respondents were asked whether they could imagine ever wanting an end-of-life pill in the absence of a severe disease. The definition of a severe disease is however open to various interpretations, which could have led to a measurement error. Finally, the fact that we included all respondents in a specific time period instead of respondents who answered the key questions in all three time periods, could be considered as a limitation of the study if we were interested in intraindividual changes only. However, we were primarily interested in the general trend of older peoples' attitudes towards euthanasia and an end-of-life pill across time.

Time trends

In all time periods of our study, the proportion of older people who could imagine ever asking their physician for euthanasia was higher as compared to the proportion of older people who could imagine ever wishing for an end-of-life pill. Euthanasia has been discussed since the beginning of the 1970s, it is nowadays legally accepted in The Netherlands, and it is the physician who eventually performs euthanasia. These three aspects could clarify why older people could more frequently imagine requesting euthanasia than wishing for an end-of-life pill. Moreover, older people probably consider having a death wish while having a severe and life-threatening disease (as is often the case with euthanasia[17]) as more imaginable than having a death wish in the absence of a severe disease.

In all time periods (except for the end-of-life pill scenario in 2001–2003), the younger of the age groups more frequently answered affirmatively as compared to the other age groups. It could be that the 'younger old' are likely to follow, or are more sensitive to debates that are going on, which may be reflected in their attitudes towards the end-of-life scenarios. This is especially relevant for the end-of-life pill scenario, in which the interaction between the youngest age group and the most recent time period studied was significant (table 3). Such reasoning could also explain why the 'older old' (in all time periods) less frequently reported that they could imagine desiring euthanasia or an end-of-life pill: when the 'oldest old' belonged to the 'youngest old', euthanasia and being weary of life was less frequently debated. Nevertheless, this lower proportion of oldest old people could also be the result of an adaptation of their views towards end-of-life practices, because patients' wishes often change over time.[28] In addition, an explanation could be that the older old have 'learnt' to live with their disabilities. A recent UK study showed that the oldest old are less likely to seek help despite significant health problems, which supports our results with respect to their end-of-life attitudes.[29] This may partly be related to a different value that older people attach to patient autonomy, for example, older people more frequently prefer not to bother their physician and often prefer a paternalistic decision-making model.

Despite this variation between scenarios and age groups, our findings suggest overall an increasing proportion of respondents with a positive attitude towards decisions around their end of life across time. For the end-of-life pill, these findings seem to be in accordance with older peoples' general attitudes towards the acceptability of an end-of-life pill (see online appendix). Our findings probably reflect the present society in which people are aware of their mortality and frailty at the end of their lives.[30] Equally relevant may be that older peoples' awareness of having a prolonged life with (accompanied) suffering may cause them to consider such a scenario imaginable. Our finding that about three out of four respondents gave the same answer in different time periods may suggest that ideas about death and dying (at least with respect to such far-reaching end-of-life issues) are to a certain extent constant within individuals. However, patients' wishes about medical care often change in situations in which they really need to decide about end-of-life care.[28] This, however, fell outside the scope of our study.

Sociodemographic characteristics and older peoples' end-of-life attitudes

Apart from time trends, across three different age groups, this study also provides new information about the association of socioeconomic and cultural factors in older peoples' attitudes towards end-of-life scenarios. Previous research showed that people with a lower socioeconomic position are likely to have shorter consultations with their physician and to receive less information about their disease.[31] Furthermore, socioeconomic and cultural factors have been shown to be associated with end-of-life decision making.[32] This study showed that being non-religious and being highly educated were markedly associated with a positive end-of-life attitude. Strong religious doctrines mostly involve the attitude that euthanasia is unacceptable. Older people are more often religious as compared to the younger generation, which may partly explain our findings.[33] The relationship that we found with the level of education may be understood by noting that highly-educated people more often prefer to make autonomous decisions and more frequently think about their future health.

The debate

In summary, we found that the proportion of older people who could imagine desiring euthanasia and an end-of-life pill was highest in the most recent time period. This finding may be related to older peoples' increased interest in the end of their own life, especially with respect to tiredness of living that is presently debated in The Netherlands.[9] Following a Dutch report in 2004,[8] the Royal Dutch Medical Association (RDMA) discussed whether, and in what circumstances, older people having a strong wish to die and being tired of living could fall under the Dutch euthanasia law. The RDMA critically discussed the current definition of a 'medically classifiable disease' and remarked that older peoples' suffering more frequently has an

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existential nature, but is often also associated with physical problems.[9] In another study using data from LASA, it has been shown that 3.4% of the respondents in 2005–2006 had a wish to die and a weakened wish to continue living.[34] Such wishes to die are also expressed by a substantial proportion of older people in other Western countries.[35 36] This stresses the importance to further investigate how physicians could make the life of those older people bearable on the one hand, but also discuss suffering and the wish to die in a serious way on the other. This is particularly relevant because our study further showed that respondents in 2008 who could imagine desiring one of the end-of-life scenarios had less trust in physicians' provision of end-of-life care. Yet it should be noted that such an affirmative answer towards euthanasia or an end-of-life pill was significantly associated with a higher educational level and with being non-religious. It should be taken into account that the debate may be influenced by a select group of older people.

In conclusion, this study shows that there is a higher proportion of older people who could imagine desiring euthanasia or an end-of-life pill in the most recent time period. This may on the one hand be interpreted as an indication that societal debates may influence older peoples' attitudes towards decisions about their own life, especially with respect to the end-of-life pill scenario. On the other hand, societal debates may also be influenced by changes in the general public's views. The fact that the RDMA pleas for taking seriously suffering as a consequence of being weary of life (in connection with physical ailments) points in the latter direction. The issue of weariness of life should not be put automatically outside the medical domain, but requires the physician's attention and care. This is certainly in line with the findings of this study, which indicate that older people can imagine desiring euthanasia or an end-of-life pill.

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